Remarks/Arguments

Claims 25-43, 46-47 and 49- 69 are active in this application.

Claims 25, 26, 28-30, 32, 33, 36, 39-44, 49, 54, 55, 61, and 63-69 are rejected.

Claim 25 is amended to more particularly define the LCST units in the polymer as described on pages 10-14 of the specification. This subject matter is also believed to be within the scope of the elected subject matter. The cosmetic or dermatological adjuvant is described, e.g., on page 22 of the application.

No new matter is believed to have been added.

The rejection under 35 USC 112, first paragraph relating to the phrase "no cloud point" is no longer applicable, in part, as that phrase has been deleted from the claims. With respect to the rejection relating to the water solubility, the application makes it clear that water solubility of the entire polymer is dictated by the solubility of the water soluble unit. Thus, the description of water-soluble units (see page 9) accompanied with the discussion on page 29 makes it quite clear that it is the polymer as a whole which has the defined solubility imparted by the water-soluble units. This clearly shows possession of what is claimed.

Withdrawal of the rejection is requested.

To the provisional rejection relating to copending application 10/069,983, it is requested that this rejection be held in abeyance since the alleged conflicting claims have not yet been patented. Further, Applicants note the following from MPEP § 822.01:

> The "provisional" double patenting rejection should continue to be made by the examiner in each application as long as there are conflicting claims in more than one application unless that "provisional" double patenting rejection is the only rejection remaining in one of the applications. If the "provisional" double patenting rejection in one application is the only rejection

> remaining in that application, the examiner should then withdraw that rejection and permit the application to issue as a patent, thereby converting the "provisional" double patenting rejection in the other application(s) into a double patenting rejection at the time the one application issues as a patent.

To the remaining rejections applied under 35 USC 102(b) or 35 USC 103(a).

By way of background, it is again noted that as discussed in the specification on page 2, line 6- page 2, line 22, stability of cosmetic dispersions is very important because such dispersions are often stored and transported in a variety of temperatures sometimes at room temperature, sometimes at 4°C. Under these varied conditions the dispersion can demix (become heterogeneous) due to the loss in viscosity of the aqueous phase and would render the product unsatisfactory for consumer sale and use. This resultant heterogeneity of the dispersion is reflected by a phenomenon of sedimentation when the dispersed phase has a density greater than that of the continuous aqueous phase; this is the case for many aqueous suspensions of mineral particles. When the dispersed phase is less dense than the continuous aqueous phase, a phenomenon of creaming takes place, such as, for example, in the case of emulsions.

Further, as described in the specification on page 4, line 25 to page 5, line 31, the polymers include units with an LCST, which have, in water, a lower critical solution temperature. These LCST units have a modified solubility in water beyond a certain temperature. They are units having a heat-induced demixing temperature (or cloud point) defining their region of water solubility. The minimum demixing temperature obtained as a function of the polymer concentration is known as the "LCST" (Lower Critical Solution Temperature). For each polymer concentration, a heat-induced demixing temperature is observed; it is higher than the LCST, which is the minimum point of the curve. Below this temperature, the polymer is water-soluble, and above this temperature, the polymer loses its

water solubility. Thus, the polymers containing the LCST units in the manner as claimed have water-gelling properties as a result of temperature changes.

According to the invention, a polymer is selected whose units with an LCST have a demixing temperature of from 5 to 40 °C at a concentration of 1% by mass, so as to obtain the gelation of an aqueous phase containing this polymer in the desired range. Furthermore, the polymer concentration used is sufficient to allow interactions between units with an LCST borne by different macromolecules, and to obtain this gelation of the aqueous phase, thus making it possible to ensure the stability of the dispersion.

In fact, the specification also presented data demonstrating the advantageous effects of selecting the types of polymers claimed as opposed to other polymers.

Example 1 (page 32, line 20 through page 34, line 14) prepared an oil-in-water emulsion containing a polymer identified as "polymer 2." Polymer 2 is described in Table 1 on page 27 and is composed of (1) a water-soluble backbone containing polyacrylic acid; and (2) LCST units as grafts—poly-N-isopropyl-acrylamide in a proportion of 49% based on the final weight of the polymer; achieving a 0.9% degree of grafting (mol %). The emulsion prepared in Example 1 was subjected to temperature changes over the range of 4 to 45°C and the macroscopic appearance and thus the stability of the composition was monitored. As concluded in the specification, the polymer improves the stability of the emulsion at 45°C while maintaining a low viscosity at 20°C.

As a comparison, the specification described another oil-in-water emulsion containing another polymer (crosslinked poly(2-acrylamido-2-methylpropane sulphonic acid), see Comparative Example on page 34, line 16 through page 36, line 5. Similar analyses were performed for this composition. As concluded in the specification, while the viscosity and stability of the comparative emulsion had similar properties at 4°C, the emulsion destabilized

at higher temperatures (45°C) where the composition containing polymer 2 did not destabilize.

Merchant's goal is to provide "novel demulsifier formulations and processes for dewatering and/or desalting conventional whole heavy petroleum crudes, heavy petroleum crude fractions, residue, fuel oils and refinery hydrocarbon fractions." (col. 3, lines 14-21) This is cannot be seen as anticipatory for a dispersion in the form of a cosmetic, make-up or care composition also including a cosmetic or dermatological adjuvant with the dispersion as claimed. At least on this basis, it is requested that the rejection based on Merchant be withdrawn.

The polymers disclosed in Merchant do not contain an oligomer or copolymer of water-soluble units as claimed (see the maleic anhydride grafted to an alkyl phenol formaldehyde resin in col. 6, lines 41-49), and the polymers disclosed in Merchant do not contain LCST units, which are one of the limitations that defines the claims over this reference—see the preferred p-nonyl phenyl formaldehyde resin having 10 moles of ethylene oxide in the Examples of Merchant (see col. 10, lines 42-45 and col. 11, lines 29-30).

This formaldehyde resin with 10 moles of ethylene oxide contained in the polymers are not LCST units as has been clearly shown in the Malcom and Rowlinson publication, now of record. What becomes clear from this publication is that the Merchant polymers described are those that have no LCST. In this Malcolm publication, Figure 6 (Page 926) shows the phase diagrams for polyethyelene oxide (indicated in squares and crosses) in which above the curve there exists two phases, below the curve there exists one phase, and the lowest point of the curve defines the LCST. Therefore, this Figure shows that as the molecular weight of the polyethylene oxide gets smaller, the two phase domain also gets smaller. Also illustrated is that for a POE of 3000, the two phase domain is indicted as the oval in the Figure. Taken

together then, 10 units of polyethylene oxide as is the case in Merchant would only exhibit 1 phase, i.e., no LCST.

Merchant discloses oxyalkylated alkyl-phenol formaldehyde resins, having particularly, the formula on column 6, lines 11 to 20. If the oxyalkylene groups are the groups with an LCST, the polymer disclosed in Merchant does not include any water-soluble group in the sense of the present application because the phenolic part of said resins is not water-soluble. Further, the amines and polyols cited in the rejection (see page 4 of the Action) cannot be considered units constituting a copolymer but functional groups. Oxyalkylated amines and oxyalkylated polyols are not copolymers.

Reconsideration and withdrawal of the rejection is requested.

Koerner describe polysiloxanes with both alkyl group - containing siloxane units and PEO/PPO groups-containing siloxane units. If the oxyalkylene groups-containing units are the units with an LCST, the polysiloxanes of Koerner do not contain any water soluble units because the alkyl group-containing siloxane units are not water- soluble. Further, Koerner's description of polymers does not meet the claimed limitation of water-solubility in a range of 5 to 80°C at a concentration of at least 10 g/l.

Thus, the polymers of Koerner are clearly different from the polymers as provided in the claimed dispersion. Reconsideration and withdrawal of the rejection is requested.

Fogel discloses alkoxylate esters having the formula of column 2, line 45. Those compounds comprise oxyalkylene units but do not comprise several water-soluble unit because the (single) hydrocarbon chain forming part of said alkoxylate ester is not water-soluble.

Moreover, even if the $OCOR_3$ moiety forming another part of the compounds of Fogel was considered as water-soluble, there would be only one single water-soluble unit in the compounds of Fogel and not several water-soluble units as in the copolymer used in the present application, e.g., see Claim 25 "wherein the polymer comprises an oligomer or copolymer of water-soluble units."

As has been explained previously, Fogel's alkoylate ester the cloud point of the alkoylate esters is preferably below 0^0C and cannot be considered a polymer being water-soluble in the range of 5 to 80°C as claimed. Further, unlike the present claims which include a polymer, the alkoxylate esters of Fogel are small molecules with low molecular weights are simply are not polymers (see also the compounds in col. 8, lines 40-45, col. 9, lines 33-42, col. 10, lines 14-24, col. 11, lines 1-7, col. 11, lines 51-60, col. 12, lines 40-49, col. 13, lines 23-30 and col. 14, lines 9-19 of Fogel).

Reconsideration and withdrawal of the rejection is requested.

The Maroy publications disclose polymers having LCST units exhibiting demixing temperatures which are not the same as those of the LCST units of the claimed polymers Maroy does not describe a polymer containing LCST units having a demixing temperature of 5 to 40°C at 1% by mass in water in the claimed method. In fact, the LCST units described in the Maroy publications do NOT have, in water, a demixing temperature of from of 5 to 40°C at 1% by mass in water. Specifically, on page 2, lines 53-56 and page 3, lines 2-3 of EP '814 and col. 2, line 54 to col. 3, line 4, Maroy describes that the LCST units selected from polyethyleneglycol (POE), polyoxypropylene (POP) or polyoxide of ethylene and propylene (POEP). Furthermore, Examples 1.1, 1.2, 1.3, and 1.4 of EP '814 (Maroy) on pages 3-4, all describe polymers with POE5 as the LCST units, which is polyethyleneglycol with a molecular weight of 5000 g/mol. However, these polymers have a demixing temperature

above 100°C at a concentration of 1 % by mass (see page 5, line 41, page 6, lines 37-39, and page 6, lines 57-59 of EP '814). Therefore, these polymers cannot be the same as the polymer defined in the claimed dispersion (<u>wherein the LCST units have a demixing temperature of 5 to 40°C at 1% by mass in water</u>).

In Example 2.3 (page 7) of EP '814 (<u>Maroy</u>), the polymer contains POP of a molecular weight of 600 as the LCST unit. However, unlike the polymer in the claimed dispersion, this polymer of <u>Maroy</u> has a demixing temperature of 48°C at a concentration of 1 % by mass. In Example 2.5 (pages 7-8) of EP '814 (<u>Maroy</u>), the polymer contains a POEP polymer with a molecular weight of approximately 1100. However, unlike the polymer in the claimed dispersion, this polymer has a demixing temperature above 60°C (see Figure 3 of EP '814).

In the Examples of EP '649, <u>Maroy</u> describes the same example as 1.2 from EP '814 (see the reference to French application 9210224, which is the priority application of EP '814 in col. 6, line 40 and lines 54-56) and Examples 4 and 5 which include POE with a molecular weight of about 5000. For the same reasons as discussed above concerning EP '814, these specifically described polymers have a demixing temperature above 60°C and are therefore NOT the same as the polymer set forth in the claimed dispersion.

Having provided evidence that the polymers described by the Maroy publications do not necessarily, each and every time, have the properties of the polymer defined in the claimed dispersion, the rejections based on <u>Maroy '814</u> and <u>'649</u> should be withdrawn.

There is simply nothing in Maroy which would lead one to select the polymers in the claims nor that in so selecting one would be able to maintain viscosity and stability of a dispersion over a wide temperature range. This is even more apparent when considering the entirety of the Maroy teachings (as is required). While the '649 Maroy publication makes passing mention to cosmetics, it is abundantly clear that both of the publications are directed

to designing polymers particular useful in the oil industry (see EP '814 at page 2, lines 8-11 and EP '649, page 2, col. 1, lines 21-29). This is cannot be seen as anticipatory for an dispersion in the form of a cosmetic, make-up or care composition also including a cosmetic or dermatological adjuvant with the dispersion as claimed.

Withdrawal of the rejections in view of the Maroy publications is requested.

A Notice of Allowance is requested.

Respectfully submitted,

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